REMARKS

Claims 32-43 were rejected as unpatentable over AKIYAMA JP 2000-269576 in view of BARNES 5,128,949. Reconsideration and withdrawal of the rejection are respectfully requested.

The claims are directed to embodiments of the invention that include a solid-state laser medium that receives pumping light and provides a laser oscillation light from ends thereof, and two resonator reflective surfaces at respective ends of the laser medium and that reflect the laser oscillation light back to the ends of the laser medium, where the laser medium is between and aligned with the two reflective surfaces so as to define an optical axis for the laser oscillation light through the ends and the reflective surfaces.

The apparatus claims 32-39 include a fluorescence detector that includes a fluorescence receiving surface that receives fluorescence emitted by the laser medium directly from one of the ends of the laser medium, where the fluorescence receiving surface is between the laser medium and one of the reflective surfaces and directly adjacent to the optical axis without blocking the optical axis. This is illustrated, by way of example, in Figures 3-4 where it may be seen that the fluorescence detector includes the photodetector 7/70 and a fluorescence receiving surface (the reflection mirror 71 in Figure 4 and the left hand surface of photodetector 7 in Figure 3) that receives fluorescence directly from one of the ends of the laser medium 1/10. That is, the claim defines the

fluorescence receiving surface as receiving fluorescence emitted by the laser medium directly from one of the ends of the laser medium and being between the laser medium and one of the reflective surfaces and directly adjacent to the optical axis without blocking the optical axis.

Method claims 40-43 are similar and include the step of detecting fluorescence emitted by the laser medium directly from one of the ends of the laser medium, the fluorescence being detected with a fluorescence detector that includes a fluorescence receiving surface that receives the fluorescence, where the fluorescence receiving surface is between the laser medium and one of the reflective surfaces and directly adjacent to the optical axis without blocking the optical axis.

The Official Action states that AKIYAMA discloses a fluorescence detector that includes a fluorescence receiving surface (the top surface of detector 30) that receives fluorescence emitted by the laser medium directly from one of the ends of the laser medium, where the fluorescence receiving surface is directly adjacent to the optical axis without blocking the optical axis. The Official Action acknowledges that AKIYAMA does not disclose that the fluorescence receiving surface is between the laser medium and one of the reflective surfaces and relies on BARNES for the suggestion to modify the device disclosed in AKIYAMA to include this feature.

However, please note that the fluorescence receiving surface identified in the Official Action, the top surface of

detector 30, does not receive fluorescence emitted by the laser medium directly from one of the ends of the laser medium. The top surface of detector 30 receives fluorescence that has been reflected by mirror 28 and thus does not receive the fluorescence directly. The word "directly" was specifically used to avoid the interpretation now espoused in the Official Action, in view of the admitted prior art of Figure 1 that shows the same arrangement as disclosed in AKIYAMA in which the fluorescence is reflected. The mirror 28 receives the fluorescence directly, but the mirror 28 is in and thus blocks the optical axis.

BARNES discloses a laser medium 13 that emits light from a side, not an end thereof. The Official Action relies on BARNES for the suggestion to move the fluorescence receiving surface 30 in AKIYAMA to between the laser medium 1 and one of the reflective surfaces 21. However, even if one of skill in the were to do this, there is still no suggestion in either reference to provide the fluorescence receiving surface that receives fluorescence directly from one of the ends of the laser medium. Indeed, it is not at all clear how the two references could even be combined because in AKIYAMA the fluorescence detector receives fluorescence from the end of the laser medium while in BARNES the fluorescence detector receives fluorescence from the side of the laser medium. What aspects of each invention are to be chosen for the combination and how would they work? It is believed that one of skill in the art would recognize these problems and not attempt the combination suggested in the Official Action.

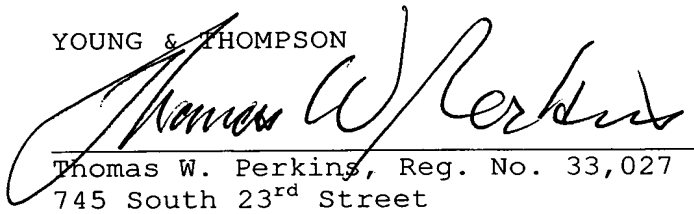
The combination of AKIYAMA and BARNES lacks any suggestion, motivation, teaching, or reason for placing the fluorescence receiving surface between the laser medium and one of the reflective surfaces and directly adjacent to the optical axis without blocking the optical axis so that the fluorescence receiving surface receives fluorescence emitted by the laser medium directly from one of the ends of the laser medium. Accordingly, the claims avoid the rejection under §103.

In view of the foregoing remarks, it is believed that the present application is in condition for allowance. Reconsideration and allowance are respectfully requested.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

YOUNG & THOMPSON



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